REMARKS

Applicants wish to express their gratitude for the courtesy extended by Examiner Vargot in participating in a telephone conference with Dorothy Whelan and Dave Underwood on June 7, 2006 regarding this application.

The purpose of the teleconference was to address an amendment to the original claims that distinguishes Dorn et al., a reference cited by the Examiner that describes elements of an optical switch. Applicants have amended independent claim 1 to define the optical waveguide in such a way that would destroy the function of Dorn's optical switch. Applicants have also amended claim 27, which contained a typographical error.

Applicant's waveguide has an electro-optic core material comprising three dimensions: thickness, width, and length. The thickness of the core is specified in several locations throughout the document, for example p. 5, lines 25-27, Table 1, p. 6, p. 7, lines 30-31, and p. 11, lines 10-11. The width of the core is specified in Table 1, p. 6. The purpose of the amendment to claim 1 is to incorporate the length dimension, which we have described as a linear dimension which is greater than either the thickness or the width. The claim language recites the length as being greater than either of the two dimensions that define the surface area of the surface of the optically transmissive core, where light enters the device. Support for the amendment is found in the figures, which are cross-sectional depictions of the waveguide device, and in the accompanying text.

In particular, the Examples section (p. 10, line 9-10) describes the substrate as a 6-inch gold-covered SiO_2 wafer. The polymer used for the electro-optic core was applied to this substrate corona-poled, and formed as a rib using a hardmask and dry etching as described in co-pending US Application Ser. No. 10/264,461 ('461). FIGS. 6A, 6B, and 6C from '461 show micrographs of electro-optic cores of the same type described in the present application with a clearly evident length dimension (especially FIG. 6C, which is a Mach-Zehnder modulator). The length of the electro-optic core in the present application example may be on the order of 6 inches, greater than either of the thickness or width ranges given in Table 1.

During the June 7 teleconference, Examiner Vargot suggested the limitation of a length dimension should distinguish the optical switch of Dorn et al. Indeed, as mentioned above, the functionality of Dorn's optical switch would presumably be destroyed if it comprised a 'depth' (from surface to substrate) that was greater than either axis along the surface that defined the surface area. Moreover, it is evident to those skilled in the art that terms used to describe the shape of the optical core (p. 4, lines 16-19), such as "rib," "quasi-rib," "quasi-trench," and "buried-trench," especially as applied to the function of a Mach-Zehnder modulator, directional coupler, or micro-ring resonator imply that the length of the optical core is greater than either the thickness or width of the surface.

Applicants request allowance of claims 1-27 as amended herein.

Please charge the required fee of $620 ($395 for the RCE fee and $225 for the Extension of Time fee) and any other charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: June 6, 2006

Dorothy P. Whelan
Reg. No. 33,814

Fish & Richardson P.C.
60 South Sixth Street
Suite 3300
Minneapolis, MN 55402
Telephone: (612) 335-5070
Facsimile: (612) 288-9696